**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Cell Transport Unit Project**

**Introduction:** You have just spend the last couple weeks learning how the cell transport materials in and out through the cell membrane in order to maintain healthy function and homeostasis. Now it’s time for you to demonstrate what you have learned. Pretend you are going to teach someone about the cell membrane and the cell transport methods. This person knows nothing about the subject, so you will have to give them a thorough overview. As part of your teaching, you will have to develop a visual aid to help your student visualize each of the processes of cell transport.

**Goal:** **Your goal is to create a visual aid that will illustrate all of the key concepts we have discussed throughout this unit**. Your visual can be anything you wish as long as you have a product to turn in at the end of the period. This means you can use a 2-dimenstional, 3-dimensional, or multimedia visual aid. You can even combine as many types of visual aid as you wish in order to demonstrate all of the types of cell transport.

**Materials:** You may use any materials you want to create your visual aid. I will provide construction paper, markers, colored pencils, crayons, computers, poster board, and video cameras (depending on availability). You are welcome to use these supplies or bring your own from home. **Make sure you plan your project before you start in order to figure out which materials you want to use so that you can bring them to class.**

**Specifics:** Your visual aid must show all of the following parts:

* Cell membrane with correct structure (include phospholipids and membrane proteins)
* Movement of molecules through passive transport
  + Simple Diffusion
  + Facilitated Diffusion
  + Osmosis
* Movement of molecules through active transport
  + Ion Pumps
  + Endocytosis
  + Exocytosis
* Label and describe each part of your visual aid. These can take many forms including directly labeling pictures, writing descriptions on a separate sheet of paper and attaching it to your project, or orally identifying and describing each part during a video or computer presentation. Be creative but make sure you identify and explain each part of your project. Also, your descriptions should be in your own words, not copied definitions.
* Your project must be neat and turned in on time

**Evaluation:** You will be graded on your completion of each of the parts discussed above using the attached rubric. You will lose 10 points for every day late.

**Grading Rubric:**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Possible Points** | **Points Earned** | **Comments** |
| **Structure of cell membrane (Phospholipids & proteins)** | 5 |  |  |
| **Diffusion Representation** | 5 |  |  |
| **Osmosis Representation** | 5 |  |  |
| **Facilitated Diffusion Representation** | 5 |  |  |
| **Representation of Ion Pumps** | 5 |  |  |
| **Endocytosis Representation** | 5 |  |  |
| **Exocytosis Representation** | 5 |  |  |
| **Labels** | 5 |  |  |
| **Descriptions of each process and parts** | 15 |  |  |
| **Description of Passive and Active transport** | 5 |  |  |
| **Total** | 60 |  |  |

* You may receive up to 5 bonus points if you choose to present your project during class at a later time